

**AN IDENTIFICATION OF DEMOGRAPHIC FACTORS AFFECTING
THE RECRUITMENT AND RETENTION OF PAID-ON-CALL FIREFIGHTERS
IN THE PLYMOUTH FIRE DEPARTMENT**

STRATEGIC MANAGEMENT OF CHANGE

Richard C. Kline
Plymouth Fire Department
Plymouth, Minnesota

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ABSTRACT

Demographics and socio-economic variables within a community affect the ability of the local paid-on-call fire department to effectively recruit and retain personnel. A problem the Plymouth Fire Department has experienced is the difficulty in recruiting and retaining paid-on-call personnel due to the rapidly changing demographics and socio-economic factors of the City of Plymouth. The purpose of this research project is to identify environmental factors which affect the service delivery of the Plymouth Fire Department and which pose barriers to the recruitment and retention of paid-on-call personnel. Options to improve service delivery will also be recommended.

This research employed historical and descriptive analysis, supported by evaluative research methodology. The following research questions were presented:

1. What demographic and socio-economic factors within the City of Plymouth influence the effective recruitment and retention of paid-on-call members?
2. What are the reported effects of changing communities (demographics, socio-economic and other environmental factors) on similar paid-on-call fire departments in the Minneapolis/Saint Paul metropolitan area?
3. What recommendations to improve fire protection service delivery can be offered by similar paid-on-call fire departments?

The principal procedures utilized for this research project were: (a) a literature review of existing material addressing demographic and socio-economic influences upon paid-on-call fire departments, (b) an historical overview of demographics and the impact upon the Plymouth Fire Department, (c) a survey of similar paid-on-call fire departments to solicit responses relative to the research questions, and (d) personal interviews conducted with fire service administrators.

The findings of the research indicated that rapid community growth and the corresponding changing demographics and socio-economic factors within the City of Plymouth do have a negative impact upon, and influence, the ability of the Plymouth Fire Department to recruit and retain personnel. In addition, other communities which are experiencing rapid growth and change also report difficulties in recruitment and retention of paid-on-call personnel, in part due to the dynamics of demographic and socio-economic factors.

The service delivery provided by paid-on-call departments can be improved by the implementation of technological advancements, the revision of administrative policies, and the innovative use of fire personnel.

Recommendations resulting from this research included: (a) A continual evaluation of the effects that changing demographics and socio-economic factors have on recruitment and retention must be performed by fire service leadership; (b) Demographic and socio-economic analysis should be utilized in developing planning strategies for the department; (c) Recruitment and retention efforts should be focused upon identified demographic and socio-economic factors within the community; and (d) Surveys of department membership are useful tools in identifying demographic and socio-economic trends.

TABLE OF CONTENTS

ABSTRACT	i
TABLE OF CONTENTS	iii
INTRODUCTION	1
BACKGROUND AND SIGNIFICANCE	2
LITERATURE REVIEW	7
PROCEDURES	18
RESULTS	21
DISCUSSION	32
RECOMMENDATIONS	36
REFERENCE LIST	38
APPENDIX A (Interview Questions)	A-1
APPENDIX B (Plymouth Fire Department: Member Survey)	B-1
APPENDIX C (Suburban Fire Department Survey)	C-1

INTRODUCTION

The Plymouth Fire Department is a paid-on-call agency that provides fire protection services for the 62,000 residents of the City of Plymouth. An authorized strength of seventy-one firefighters, operating out of three fire stations, addresses the fire protection needs of our growing community. In 1997, the Department responded to nearly 1300 calls for service.

The volunteer fire service is a crucial national resource. The organizational style of volunteer fire departments has a significant history in our country and is a tradition which dates back to the roots of the United States. It is not, however, a system without limitations. Minimum staffing levels of fire apparatus and the response time of fire department resources to the incident scene are at the forefront of issues challenging the volunteer fire service. Of particular concern is whether the paid-on-call fire department will be able to meet the continuing demand for service into the next century, and provide its services in a safe and effective manner.

The problem that this research project addressed is the Plymouth Fire Department's difficulty in the recruitment and retention of paid-on-call personnel due to the rapidly changing demographics and changing socio-economic factors of the City of Plymouth.

The purpose of this research project was to identify environmental factors which affect the service delivery of the Plymouth Fire Department and which pose barriers to the recruitment and retention of paid-on-call personnel and to offer recommendations to improve the service delivery provided by this organization.

Historical and descriptive research, supported by evaluative research methodology, was utilized to answer the following research questions:

1. What demographic and socio-economic factors within the City of Plymouth influence effective recruitment and retention of paid-on-call members?
2. What are the reported effects of changing communities (demographics, socio-economic and other environmental factors) on similar paid-on-call fire departments in the Minneapolis/Saint Paul metropolitan area?
3. What recommendations to improve fire protection service delivery can be offered by similar paid-on-call fire departments?

BACKGROUND AND SIGNIFICANCE

On November 1, 1959, the Plymouth Village Council passed Ordinance No. 59-22, which chartered the Plymouth Volunteer Fire Department to provide fire protection service to Plymouth's 9576 residents. Francis Bauer, credited as being the driving force behind this initiative, first served as the Chairman of the Fire Protection Committee which laid the groundwork for the new Fire Department. Then, on June 14, 1960, he was appointed by the Village Council as the City's first Fire Chief. Chief Bauer served in this capacity until March of 1980.

On April 26, 1960, Council Resolution No. 60-4 was passed. This resolution provided for the sale of \$80,000 in bonds to build Plymouth's first fire station and to purchase fire service equipment. A bid of \$37,121.06 for the construction of the fire station was approved on November 1, 1960. Shortly thereafter, on November 27th, the Village Council appropriated \$20,800 for the purchase of the City's first piece of fire apparatus, a John Beam pumper. This marked the humble beginning of the Plymouth

Fire Department, where fifteen volunteer firefighters and several officers answered the City's fire protection challenges by operating out of one fire station located in the south central part of the City.

Thirty-six years later, the City of Plymouth is now host to more than 62,000 residents, and the Plymouth Fire Department has grown into a modern full service fire department. Sixty-two highly trained, paid-on-call firefighters, one half-time Education Specialist, and one full-time Fire Chief address the fire protection needs of the rapidly growing community.

Plymouth firefighters work out of three fire stations: Station I at 13205 County Road 6 (built in 1991), Station II at 12000 Old Rockford Road (built in 1977), and Station III at 3300 Dunkirk Lane (built in 1989). Since 1993, calls for fire service in Plymouth have increased by eighteen percent. The Plymouth Fire Department now responds to approximately 1300 calls for fire service each year and utilizes 14 pieces of apparatus to do so.

Over time, the fire service has drastically expanded the services it provides to include a variety of duties beyond fire suppression. The American fire service is in a state of transition on two fronts. The first is the transition from providing the limited traditional function of fire suppression to becoming agencies that capture the range and diversity of modern society. Service to our community now incorporates many response fields such as hazardous materials, emergency medical, and technical rescue. New responsibilities also include focused customer relations activities such as post-fire assistance, medical screenings, public education activities and non-emergency assists. Fire departments are challenged in providing this expanded scope of services due to both internal and external community and environmental influences. The relatively stable fire service of the past has been replaced by a dynamic and ever-changing environment that places extraordinary demands on fire service leaders (Addezio, et al., 1995).

The second transition involves the additional challenge confronting the fire service, specifically paid-on-call departments, of how to provide the expanded scope of services utilizing part-time and volunteer personnel. With the expansion of services offered by the local fire department, an expectation of quality service delivery is a valid concern of our customers. The recruitment and retention of personnel is vital to the future of paid-on-call fire agencies. Most contemporary volunteer fire departments would rate member recruitment and retention as a major problem they face (Fleming, 1996, p. 38). In the growing and dynamic community served by the Plymouth Fire Department, the increased demand for service has created a concern regarding our ability to meet these service demands utilizing a paid-on-call staff.

In 1969, the Plymouth Fire Department provided the limited services of fire suppression and rescue to those endangered by fire. In 1998, the Department's paid-on-call professionals are highly trained to provide a wide range of services to meet the growing needs of our urbanized community. The Plymouth Fire Department's technical expertise includes:

- Fire Suppression Response
- Hazardous Materials Response
- Radiological Monitoring for Two Nuclear Generating Facilities
- Technical and Water Rescue
- Disaster Response and Preparedness Planning
- Facility Pre-Planning
- Fire Prevention Education

The most significant challenge that a volunteer fire department faces is its ability to secure and retain a professional staff from the community which it serves. This challenge is rooted in both the

demanding standards intrinsic to the career of firefighting and the service levels unique to the demographics of the community.

A significant barrier to current service delivery is the ability to recruit potential members for the Plymouth Fire Department. During the past five years, the recruitment of prospective members has challenged fire department leadership, and has become a top priority. During this five year period (1993 through 1997), the Plymouth Fire Department has experienced a decrease in the number of applications received for firefighter positions, and also a decrease in the total number of new members joining the department following successful completion of the pre-employment process.

The Plymouth Fire Department functions like any other professional organization in its hiring process. Candidates must be able to pass job-related performance tests, succeed in a personal interview, be able to commit to an on-call 12-hour work shift, and be exemplary in character. Physical agility, psychological, and drug analysis tests, as well as criminal background checks, must also be passed.

With current recruitment practices, we have found that for every twenty candidates who have applied for the position of firefighter, only four will be qualified to receive an interview and usually only one of these candidates will receive a conditional job offer. It may take over twelve months to generate such a pool of twenty candidates.

The Plymouth Fire Department experiences the loss of three to four members annually. Difficulties in the recruitment and retention of paid-on-call members has placed the effective delivery of fire protection services at risk due to low staffing levels which impact firefighter safety and overall response time to emergency incidents.

The 1993 National Fire Prevention Association's annual survey of fire departments reported a steady decline in the number of fire service volunteers from 1983, when there were 884,600 active volunteers, to 1991, when there were 771,800 active volunteers (Karter, 1993). The Plymouth Fire Department has not been immune to this trend.

Changing demographics which are unique to the City of the Plymouth pose significant barriers that impact the delivery of fire protection service and impede the Fire Department's ability to recruit and retain firefighters. These changing demographics include:

- a tripling of the City's population;
- the movement from an agrarian economy to an economy of technology and light industry;
- an increase in the demand for fire protection service, especially during daytime hours;
- the need for a diversified fire service delivery system, including technical rescue, hazardous materials response, water rescue, and radiological monitoring;
- an increase in state and federally mandated training requirements;
- an increase in the time commitment required for call response and training;
- the fact that Plymouth is a professional, white collar community, with many residents commuting to daytime employment outside of the City;
- an increase in household income and the value of housing;
- a predominance of dual career families raising children;
- the cost of child care;
- the misnomer of a "volunteer" fire service;
- the fact that management team and firefighter committed time is already at full capacity; and
- the financial compensation of a fire service professional.

As we look into the twenty-first century, we should ask ourselves what influences are emerging today that will affect the services we provide now and how we will deliver them in the future (Bruegman, 1997, p. 23).

The Plymouth Fire Department is struggling with response issues which are directly related to the rapid growth of the community, the changing community demographics and an increase in call volume, all of which impact the ability to attract and retain personnel to answer the increased demand for services.

This research project is closely related to discussions, lectures and practical sessions conducted in the Executive Fire Officer (EFO) Program *Strategic Management of Change (SMOC)* course offered by the National Fire Academy (NFA). Specific organizational improvements will be planned through the utilization of the course's Management of Change Model. The Model will also be utilized in the analysis and planning sections of this project. Of additional value are the following course concepts: (a) leadership principles to enable change, (b) identification of impediments to organizational change, and (c) the importance of personal change issues.

LITERATURE REVIEW

The range and diversity of services that paid-on-call fire departments provide to their communities are growing. To prepare our departments for the future, fire service leaders must examine what services the department currently provides, must anticipate future service demands and must determine how the department will deliver these services. In this examination, the fire service leader

must factor in a profile of the community and the effect that change within the community will have on the fire department.

As what remains of the 20th century passes us by, volunteer fire chiefs across North America are faced with the growing problem of not knowing who will be available to deliver fire suppression for our smaller municipalities (Carter, 1996, p. 50). The problem of maintaining a paid-on-call fire department in times of increasing demands, both internal and external, is a dilemma the modern fire service leader must address. The desire to remain a paid-on-call organization may be outweighed by the fact that the community may not support that organizational style because of demographic and socio-economic shifts in the region.

Ninety percent of emergency service agencies in the United States are comprised of people volunteering to help their community. Over the past two decade, the size of the nation's volunteer fire service has declined. This decline has highlighted the need to identify the issues and problems that affect recruitment and retention, and how these problems can be addressed (National Volunteer Fire Council, 1995, p. xii).

According to the National Fire Protection Association, eleven percent of the total number of fire departments in 1991 had all career or mostly career staffs and protected 60 percent of the U.S. population, while 89 percent of the departments had mostly volunteer or all volunteer staffs and protected 40 percent of the population (Karter, 1993, p. 61). The ability to provide sufficient personnel to staff the paid-on-call department into the next century is a critical issue not appreciated by many in the fire service. Very few among us foresaw the massive population shifts and revised demographics of a maturing "post-baby boomer" America (Carter, 1996, p. 115). The problems caused by population shifts, suburban development, the diminished value of "volunteering," societal demands and an aging

society are raising the question of who will provide the necessary fire protection in the smaller city and urban/suburban environments.

Chief Nyle Zikmund of the Spring Lake Park - Blaine - Mounds View Fire Department in Minnesota states that the recruitment and retention of paid-on-call/volunteer fire personnel is not unique to any one fire department. Rather, it is a function of societal and demographic changes (Zikmund, 1995).

Zikmund reports the following results of a research survey aimed at profiling firefighters for recruitment and retention issues:

- Most respondents (79%) reported annual household incomes between \$27,500 and \$72,500.
- Most respondents (87%) are married, with 68% of them being married at the time they joined the fire service.
- Ninety-seven percent of the respondents own their home, with 71% owning their home when they joined the fire service.
- Forty-two percent of the respondents reported being employed in the “trades.”
- Males represented 98.5% of the respondents, with 100% of respondents reporting their race as Caucasian.

Survey results compiled by Zikmund in his community parallel the demographic and socio-economic findings identified by this author for the City of Plymouth. Although the two cities differ in population and growth, the demographic and socio-economic influences affecting the recruitment of volunteers are the same. Males employed in “blue collar” industries and who can afford to live in the community continue to represent the majority of paid-on-call firefighters.

Meyer reported that the socio-economic condition of the community is one factor that can affect the viability of a combination fire department (Meyer, 1993). Meyer also noted that the affluence of the community can lead to difficulties in the recruitment and retention of paid-on-call personnel. The time devoted to gain financial security (to live in the chosen community) often impacts the recruitment and retention of personnel due to the demands of “making a living.” Emrich (1989) reported that there is a growing need to devote more time to careers and work life to maintain or improve economic status. Two wage earner families, long work days, and multiple jobs are becoming the norm rather than the exception in today’s society. This directly impacts the pool of available people to recruit for the paid-on-call department.

The fire service in the United States has recently taken notice of a report by the Hudson Institute entitled “Workforce 2000” (Jones, 1992). The Institute is a non-profit research group which has examined employment and labor trends of the United States into the next century. The “Workforce 2000” report reveals several significant implications for the fire service as related to future demographic trends. These demographic trends will affect all organizational styles of the American fire service. Trends reported in the “Workforce 2000” report include:

- The population of the United States will increase at a growth rate of one percent per year until the year 2000. This growth rate is slower than at any other time in our history (except in the 1930s). Correspondingly, the workforce will slow in its growth rate, creating an increased demand for labor, especially skilled labor. This means that the fire service will have to compete with general industry for trained and qualified personnel. This may signal a need to provide wage and retirements benefits to attract prospective members into the paid-on-call fire department.

- The median age of the population will climb to 36 years of age by the year 2000. As organizations grow and attrition of the current workforce occurs, the ability to attract “young people” (ages 20-29) will diminish. Currently, eighteen percent of the Plymouth Fire Department is comprised of members in the 20-29 age group. Traditionally, the Plymouth Fire Department has drawn most of its members from this age group.
- Forty-seven percent of the future workforce will be comprised of women. Women will continue to enter traditionally male-dominated work occupations. The implication for the many paid-on-call departments is that their recruitment efforts must be focused upon this segment of the workforce not currently recruited heavily. From a work place standpoint, only about one percent of paid firefighters are women (Jones, 1992, p. 68). The City of Plymouth currently employs four women in its 62 member fire department.
- Minorities will be a larger share of new entrants into the labor force. White males have represented the largest group entering the workforce (47 % in 1985). In the year 2000, white males will comprise only 15 percent of new entrants to the labor force (Jones, 1992, p. 68).

In addition to these demographic characteristics, “Workforce 2000” notes an increasing demand for skills beyond high school educational levels. We must adjust and realign our educational requirements for both prospective and current fire personnel based upon the increased diversity of services offered, technological advances, regulatory pressure to increase certification and education requirements, and changing legal constraints.

A survey of volunteer fire departments in Minnesota found that more than 60 percent of those responding had no women or minorities in their ranks, and less than 22 percent reported more than one

woman or minority firefighter. Women represent 3.48 percent and minorities 1.46 percent of the 5,608 members of the 237 fire departments responding to the survey. There are 792 departments in the state (Kuchera, 1994, p. 51).

When a business learns that the composition of its market, customer, or employees has changed, it will modify both its products and its marketing plans to fit the needs of its customers (Grant, 1994). The fire service must begin to tailor its services and target those services to the changing characteristics of our society. This includes the inclusion of the many diverse cultures and populations into the fire service family. The problems caused by population shifts, suburban development and an aging society are raising anew the matter of fire protection service delivery (Carter, 1996, p. 50).

Demographics, simply defined, are the characteristics of any given population group and location, including occupations, area population, land values, socio-economic status, education level, ethnicity, etc. Demographics are key variables that affect the delivery of fire protection services, particularly those of the paid-on-call department. An understanding and appreciation of how these different factors interact with and influence the internal and external operations of the fire service is essential to developing a comprehensive plan that will effectively meet the needs and wants of the local community (McNally, 1994, p. 41).

Dr. Vincent P. McNally, Jr., Director of Graduate Studies in Public Safety at St. Joseph's University in Philadelphia, Pennsylvania, suggests several universal demographic trends which impact the fire service. Included are those identified by the "Workforce 2000" report: an aging population, an increase of women in the workforce, an increase in minority representation in the workforce, an increase in communities where housing is difficult for the average volunteer firefighter to afford, an increased separation of work place from home (McNally, 1994).

McNally also identified population variables which impact the paid-on-call fire department.

These variables include:

1. A reduced pool of applicants due to smaller families and declining birth rates.
2. Two career families which limit the availability of people to volunteer.
3. Local business not allowing workers to be released to respond to fire department activities.
4. A transient population.
5. Aging populations. Many younger people are moving out of the community, limiting the pool of available volunteers.
6. Increased time demands for fire personnel.
7. The decline of the volunteer fire department as the social center of the community.

Anderson reports that many modern volunteer and paid-on-call firefighters who staff fire departments in rapidly growing suburban communities must juggle the demands of their regular careers, their family responsibilities, and their recreational activities to meet the demands of the fire department. Many have involvement in other community activities such as church, school, youth sporting activities, etc. All place an increasing demand on firefighters (Anderson, 1994).

Carter also discussed a lack of time due to work related activities. Because of an increase in call volume and training requirements, local businesses are often reluctant to release personnel to attend fire department activities (Carter, 1993).

According to Carter, firefighters often have to work so much to meet financial obligations that they have no time to devote to the fire service, or are unable to afford housing in the community. Relocation to other geographical areas is an option many current firefighters consider (Carter, 1993).

Living and working in the community is a factor in the success of a paid-on-call organization. The ability to reside in the community is related to the member's economic status and the socio-economic condition of the community. Emrich (1989) reported that there is a growing need for members to devote more time to their careers and work life to maintain or improve their present economic status. Two wage earner families and multiple jobs are becoming the norm and not the exception in today's society. This reduction in "free" time directly impacts the pool of potential paid-on-call members, as well as their ability to respond to emergencies (Kenny, 1996, p. 7). The socio-economic condition of the community is a factor that affects the viability of the paid-on-call fire department. Due to conflicts with their full-time occupations, people are often not available to "volunteer" their time to the local fire department.

Anderson states that new housing in his community (Maple Grove, Minnesota) is priced beyond the financial capabilities of the typical firefighter (Anderson, 1994). The ability to attract and retain firefighters is often dependent upon affordable housing. This is certainly true in the City of Plymouth.

Shifts in populations and the transient nature of today's society also impact the delivery of fire protection services. A 1997 report generated by the Metropolitan Council reported demographic data concerning the development and population trends of the metropolitan area surrounding the cities of Minneapolis and St. Paul. This report stated that this area realized an increase in population of 194,000 people and 83,500 households during the period of 1990 through 1996. Nearly a third of the region's population between 1990 and 1996 consisted of newcomers to the area (Metropolitan Council: Council Direction, November/December 1997). According the Metropolitan Council, the City of Plymouth was one of the top ten gainers in number of new households from 1990 through 1996, and is predicted to

remain one of the top contenders for future population increase and new households. This demographic trend has a profound effect on the recruitment of paid-on-call membership.

Kirby Kiefer, Fire Service Specialist at the Minnesota F.I.R.E. Center, states that a significant impact is felt by volunteer and paid-on-call organizations in their attempts to recruit and retain personnel in communities where: (a) there is continual population growth, and (b) the population tends to be transient in nature (Kiefer, personal interview, December 1997). According to Kiefer, a lack of community involvement often exists in newcomers to the community. Preconceived expectations of service and a lack of “roots” or a vested interest in community services and events hinder the recruitment of new personnel. When a population has little affinity for their community, it presents a challenge to recruit personnel (Kiefer, personal interview, December 1997).

John Fowler, Chief of the Sumner Fire Department in Sumner, Washington, also reports that the ability to recruit and retain volunteers is directly related to demographic and societal barriers. Fowler’s experience suggests that the competition between fire department activities and those of the member’s personal life (primarily the time demands required of the fire service and the ability to reside in the community) are in conflict (Fowler, personal interview, August 1997). This competition for time and services has a direct bearing on the ability to recruit and retain paid-on-call members.

A 1996 survey conducted by Chief Patrick Kenny of the Hinsdale Fire Department reported the following as factors affecting the decline in membership of paid-on-call departments (Kenny, 1996):

- Lack of available time;
- Increased family responsibilities; and
- Socio-economic conditions in the community which did not support the paid-on-call membership.

The nature of the volunteer fire service is changing nationwide. This trend can be attributed in part to the changes in the demographics of the regions in which the volunteers serve, and in part to the changes in our society and culture (National Volunteer Fire Council, 1995, p. 4).

A comprehensive study researching the recruitment and retention of volunteer firefighters was conducted by the National Volunteer Fire Council (1995) in cooperation with the National Fire Academy and the United States Fire Administration. According to this report, the decline of volunteer fire service membership can be attributed to the following factors:

- National decline in volunteerism in all areas of service;
- More stringent training requirements and demands;
- More demand on people's time in a hectic society;
- Population shifts from smaller towns to urban centers;
- A decline in the sense of civic responsibility;
- Volunteers moving out of their community area for economic reasons;
- Time demands required of the fire department conflicting with personal time;
- Local companies not willing to grant time off to employees to volunteer; and
- Less stable population with transient groups.

It is true that individuals tend to join volunteer fire departments out of a sense of service to their community, or because they have a vested interest in the fire service. The changing nature of today's society, with increased obligations, changing family structures, and increased economic demands, has reduced levels of volunteerism in many regions of our country. Economic realities shape the choices volunteers can make. Now, with both parents working, whatever spare time that is left over must go to the kids and other activities (Gerson, 1997). Kathy Behrens, Vice Chairwoman of the City Cares of

America, states, “I don’t think it’s a question of people not wanting to volunteer; it is a question of how, where, and can I do it in a way that fits into my schedule” (Gerson, 1997, p. 29).

This literature review indicates that a decline in paid-on-call membership of many fire departments in this county can be attributed to the demographics and socio-economic factors of the community and its population. It became apparent during the course of the literature review that many of the factors affecting the recruitment and retention of paid-on-call firefighters were consistent among this type of agency. Literature reviewed also revealed that the majority of fire departments in the United States have not kept themselves informed about the changing communities they serve.

The fire service will be faced with the same challenges faced by private and public sector employers. The demographic changes noted in the “Workforce 2000” report will, without doubt, lead to changes in the cultural and ethnic background, gender, age, economic characteristics, value systems, and available members of a new labor force (Wrightson, 1994). The fire service must be cognizant of the demographic and socio-economic changes and trends, and must develop creative recruitment programs focused on those populations predicted to comprise the future workforce.

The success of the volunteer/paid-on-call organization is dependent upon the availability of competent members. The demographics and socio-economic factors associated with the community and region influence the viability of the volunteer/paid-on-call organization.

Contemporary fire departments operate in a dynamic environment that presents many challenges. This environment presents both opportunities and threats to the organization. It is the responsibility of fire department leadership to implement strategic planning initiatives that position the organization to successfully respond to environmental opportunities, while avoiding the threats posed by the environment (Fleming, 1997). Research of this literature has supported the need to identify local

and regional demographic and socio-economic factors which impact the recruitment and retention of paid-on-call members within the Plymouth Fire Department.

PROCEDURES

The procedures utilized for this research included a review of current literature, a survey of comparable fire departments, and two personal interviews.

A review of current literature concerning private and public service levels as related to local and regional demographics was conducted. Current literature from several sources comprised the first stage of this research. Initial efforts to locate appropriate material were conducted at the Learning Resource Center at the National Emergency Training Center in Emmitsburg, Maryland, in August of 1997. Additional research was conducted at the Plymouth Branch of the Hennepin County Library system and at the Fire Information Resource Center (F.I.R.E.) in St. Paul, Minnesota, between September and December of 1997.

Considerable research was conducted to identify demographic and socio-economic data relative to the City of Plymouth. Data was compiled from the City of Plymouth Community Development and City Assessing Departments. Additional information was obtained through the Minnesota State Demographer's Office located in St. Paul, Minnesota.

A personal interview was conducted with John Fowler, Chief of the Sumner Fire Department in Sumner, Washington. This interview was conducted on the campus of the National Fire Academy in August of 1997. The interview with Chief Fowler lasted approximately 45 minutes.

A personal interview was also conducted with Mr. Kirby Kiefer, Fire Service Specialist with the Minnesota F.I.R.E. Center. This interview was conducted on December 20, 1997, in the office of the Fire Chief for the City of Plymouth. This interview lasted approximately one hour.

Both interviews included specific questions pertaining to the research problem and questions posed in this study. Information was solicited concerning the identification of demographic variables affecting fire service delivery, the impact of demographic and socio-economic factors on the recruitment and retention of paid-on-call members, alternative service delivery options, and trends of fire service delivery systems. Appendix A contains the questions asked of those interviewed.

A member survey of the Plymouth Fire Department was conducted in January 1998. This survey was designed to: (a) provide a demographic and socio-economic profile of the members who comprise the Plymouth Fire Department; and (b) identify attitudes, behaviors and perceptions of departmental communications, leadership and management qualities. Forty-four members responded to this survey. Membership survey questions are contained in Appendix B.

A survey of forty-two suburban fire departments in the Minneapolis/St. Paul metropolitan area was conducted during September and October of 1997 to solicit information concerning current service delivery levels of these departments, community demographics, the impact of demographics and socio-economic factors upon the local services, and alternative service delivery options. Thirty-three survey forms were returned. Of those returned, seventeen were utilized for this research project because they represented the paid-on-call departments. The survey results of the sixteen career departments responding were not used in this study. Appendix C contains the survey research questions.

Several limitations were noted during the course of this research project. It was assumed that all individuals who responded to the survey were providing truthful, unbiased information. Survey

results were compiled from paid-on-call respondents only. As such, they may not be representative of the fire service in general.

The existence of literature concerning demographic data and its effect on local emergency service organizations, particularly the volunteer/paid-on-call agency, proved to be difficult to locate. Several sources cite the time at which a community should consider making an organizational change from a volunteer to a paid fire department. Carter (1996) cites a lack of day responders, an increase in call volume during daytime operations, community disruption of workers leaving their work place to respond to calls, and a need for on-going fire inspections as reasons to consider a combination fire department. There was little information in current literature concerning specific analysis of demographic and socio-economic influences upon a paid-on-call fire department related to recruitment and retention problems.

The research procedures which were selected involved discussion of several ambiguous concepts. The terms used are defined as follows:

Socio-economic: Relating to, or involving, a combination of social and economic factors which impact a given population.

Demographics: The statistical study of human populations with reference to size, density, distribution, vital statistics, and trend analysis.

Paid-on-call: A fire service organizational style. Members of the organization receive an hourly wage and may receive a length of service pension award following retirement.

Volunteer: One who gives time, energy and expertise to an agency or to support a cause. This is done without expectation, or receipt, of monetary compensation for services rendered.

RESULTS

At the outset of this research project, three specific research questions were identified. The results of the research are organized around those three questions and are presented in turn.

Research Question 1: What demographic and socio-economic factors within the City of Plymouth influence the effective recruitment and retention of paid-on-call members?

A 1998 Plymouth Fire Department membership survey indicated that the majority of those employed by the Plymouth Fire Department are married, with an average age of 36.5 years. Sixty-four percent of the membership are raising children and have completed 14.3 years of formal education. Ninety-five percent of the membership is male, with 100 percent listing Caucasian as their race. Most Plymouth firefighters live in the City, but commute to work outside City limits. Forty-five percent report their household income between \$50,000 and \$70,000 dollars, with 87 percent reporting that they own their homes. Male or female, most firefighters are in the prime of their full-time careers outside of the Plymouth Fire Department and integrate six to twelve hours per week, scheduled and on-call, into their family and civic responsibilities.

In past years, local companies were willing to let their employees respond from work to emergency calls. Today, only three of the sixty-two paid-on-call Plymouth firefighters is granted this privilege. Because firefighters were often called away from their jobs at least eight to ten times per week, causing a continual interruption in the employer's business operation and in productivity, it is easy to understand why employers can no longer be supportive of this past practice.

The increase in calls for fire service and the time required to satisfy mandatory training requirements have posed a dilemma for firefighters. Unable to compromise their full-time employment outside of the department, firefighters must compromise family and civic obligations in order to meet the increasing demands of the department. It has, in fact, been our recruiting experience that most of the applicants for the position of firefighter screen themselves out of the application process after they understand that there will be a six to twelve hour per week average time commitment to on-call and scheduled Department responsibilities. Applicants also screen themselves out of the process when employment requirements or the location of their residences within the community do not allow them to comply with the required five minute or less travel time to a fire station during call-out.

The base level of educational attainment of Plymouth's residents has increased significantly over the past two decades. The number of Plymouth residents who have some college education increased from 42% in 1970, to 74% in 1990. The percentage of residents with at least a four year degree increased 16% during the period from 1970 to 1990. Those listing a high school diploma as the highest level of education decreased from 38 % in 1970, to 21% in 1990. This trend of increasing educational attainment for Plymouth's workforce has paralleled an increase in salaried positions within the executive community. In 1990, census data revealed that 74% of Plymouth's workforce aged 25 years or older held executive, administrative, professional, or sales positions.

America's volunteer fire service has historically been staffed by individuals employed in blue-collar or service professions. These individuals traditionally have been wage earners involved in shift work. The demographics of the Plymouth Fire Department and its recruiting experience have been consistent with this national finding. The majority of Plymouth's firefighters are employed as skilled crafts persons, service maintenance workers, protective service providers, or technicians. Eighty-one percent work full-time and 72% do not work in the City. The Department has had limited success in recruiting individuals from Plymouth's predominantly professional, white collar community, where most residents work outside of the city during daytime hours and manage families when they return to the City each evening.

In 1996, the Organization for Economic Cooperation and Development (OECD) released its findings on working conditions in America. This organization found that Americans' working hours are higher than have been traditionally estimated because many workers hold multiple jobs and the number of hours worked per job has risen. With corporate downsizing, white-collar professionals and, in particular, middle managers are being worked harder by their employers. For blue-collar workers, especially less skilled workers whose real wages have not kept pace with the economy, working overtime has become a way to maintain their living standards. The OECD also found that employees believe that those who do not demonstrate their "commitment" to their jobs will be the first to be released during times of cutback or will not be rewarded during times of promotion. Workers also believe that by sacrificing personal time for work during their twenties and thirties, they will be financially rewarded during their forties (Star Tribune, 1996).

Census data for the City of Plymouth has shown that the clear majority of adult residents are part of two-parent working families that are engaged in full-time, day employment outside of the City.

Sixty-two percent of Plymouth residents aged 15 and older are married, and 86% of the City's population live in a family household.

There is no argument that volunteer firefighting has always been taxing on a family. Today, with the majority of two income, dual career families, the stress on firefighter families has been significantly heightened. Integrating six to twelve hours per week of on-call and scheduled fire service into a family where both parents work full-time, where each commutes a minimum of forty minutes daily, and where the children are cared for in daycare or school settings and are often involved with extracurricular activities, is a difficult challenge to meet. The normal, day-to-day demands placed on a family raising children are high on their own merit. Reducing available family time by 6-12 hours per week to deliver fire protection service is not feasible for many households.

Ensuring that child care is provided for a firefighter family has become one of the most difficult challenges. In dual career families, frequently only one parent is home with the children at a time. Each time that a firefighter is called away, immediate plans must be made for child care. For many, the \$6.75 to \$8.75 hourly firefighter wage does not offset the cost of child care or compensate for the inconvenience to the family. Likewise, when calls for service interrupt family or civic commitments, firefighters must balance their responsibility to the Department with their other obligations. The exponential increase in calls for fire service over the past decades has further stressed this balance.

Eighty-three percent of Plymouth's labor force aged 16 and older works daytime hours. The majority of these workers commute to work, leaving the City between the hours of 6:00 and 10:00 a.m. Daily commuting time exceeds 40 minutes for about half of the workers. Thirty-two percent of workers spend between 20 and 39 minutes commuting to and from work.

Recruiting day responders from Plymouth's workforce to address the escalating daytime demand for fire protection has been extremely difficult. Studying the demographics of the City, married women who are not in the labor force and who are raising children in their homes provide the most sizable population from which to recruit. Yet, the on-call service requirement of the Department poses a barrier for anyone providing for the care of children. The challenges of child care, both logistic and financial, make fire service prohibitive. Despite recruiting efforts targeting this population, only four women serve on the Department.

As the community has become younger and better educated, the aggregate household income in Plymouth has risen. Households earning between \$15,000 and \$34,999 per year decreased from 49% in 1980, to 22% in 1990. Households earning less than \$14,499 per year decreased from 18% in 1980, to 7% in 1990. The number of households earning in excess of \$50,000 per year increased to 52% in 1990 -- up from only 14% in 1980. The percentage of middle income households (those earning \$35,000 to \$49,999 per year) remained at 19% from 1980 to 1990. One of the difficulties that the Plymouth Fire Department has experienced in recruiting firefighters from a population earning in excess of \$50,000 annually is that for these families, the Department will impose financial and time burdens upon a family, rather than provide a cost benefit to them. The hourly wage cannot compete with the equivalent salary, commission, or wage earned by the three-quarters of Plymouth's labor force employed in executive, administrative, professional, or sales positions. The compensation received for spending a single additional hour of work at one's full-time place of employment will exceed, by four times, the hourly firefighter wage.

Housing values have a significant impact on a volunteer fire department. The recruitment and retention of volunteer firefighters hinges upon affordable housing within the community. Firefighters must

be able to afford housing that is within a fire district and is also within the required five minute travel time to a fire station.

The value of housing in the City of Plymouth has increased as the aggregate household income has risen. Throughout the past three decades, roughly 74% of the City's residents have been homeowners. The average price of a home in Plymouth rose from \$31,273 in 1960, to \$153,030 in 1990. This average value includes all residential structures: townhouses, condominiums, duplex units, and single family dwellings. Using these figures, three-quarters of the City's homeowner population owns property valued at or above \$100,000. The City of Plymouth's Planning Division has separated single family dwellings from this collective figure, and has estimated their average value, in 1996, to be in excess of \$200,000.

Plymouth Fire Station I is located in an industrial park. This industrial zoning has reduced the number of residential units that are within the required five minute travel time to the station. The housing units in closest proximity to the station have historically had a slow turnover rate and do not often become available for purchase. New construction in this district exceeds the affordability range of the typical firefighter candidate.

With the exception of townhouses valued between \$110,000 and \$140,000, the five minute travel time areas surrounding Fire Stations II and III have been developed to include residential housing units valued in excess of \$200,000. Townhouse lifestyles are often not preferred by young families raising children. Likewise, a \$200,000 mortgage is often not available to a blue-collar or service professional raising a family.

The identification of changing demographic and socio-economic factors within the City of Plymouth is vital in preparing for the future needs of the department. A correlation exists between the

rapid growth of Plymouth and the ability to attract and retain personnel. Rapid community growth, changing citizen values, an increase in housing costs, a transient nature of the community, population shifts, and the prevalence of two income families pose significant barriers to effective recruitment and retention of paid-on-call personnel.

Research Question 2: What are the reported effects of changing communities (demographics, socio-economic and other environmental factors) on similar paid-on-call fire departments in the Minneapolis/Saint Paul metropolitan area?

The author developed a survey to: (a) evaluate the delivery of fire protection services; (b) identify barriers and challenges fire departments face in providing such services; and (c) solicit recommendations to enhance the delivery of fire services. This survey was sent out by mail to forty-two departments serving the Minneapolis/Saint Paul metropolitan area.

Thirty-three departments responded to this survey. Of these departments, 17 respondents represented paid-on-call departments. Because these departments most closely resemble the organizational style of the Plymouth Fire Department, their responses were used to tabulate the following findings:

- Seventy-one percent of the departments are staffed by a full-time, paid fire chief.
- All of the 17 departments have experienced an increase in calls for fire service over the past five years.

- Ten departments have not had difficulty in providing fire protection services due to changes in their community. The other seven departments reported that rapid growth in population and development pose difficulties for them.
- All of the departments identified 6:00 a.m. - 12:00 p.m. as the most difficult time period to staff. Additionally, four departments expanded the 6:00 a.m. - 12:00 p.m. time frame to 6:00 a.m. - 6:00 p.m. as their most difficult time of day to staff.
- For 82% of the departments, call volume is the highest between 12:00 p.m. and 6:00 p.m.
- Eighty-one percent of the departments provide both fire and EMS service. On average, EMS runs account for 43 percent of their annual calls.
- Showing only minor fluctuation between totals, departments averaged one call per year for fire service for every 55 residents. Combining fire calls with EMS runs, departments averaged one call for every 40 residents.
- Fifty-nine percent of the departments face challenges in recruiting new personnel.
- The lack of day available people was universally cited as the number one challenge faced by fire departments.
- Many respondents identified a concern over the ability to serve the growing needs of their community, staff future stations, and address the negative impact call volume has on their department's ability to deliver fire prevention. A number of respondents also reported that applicants often withdraw from the hiring process after finding that the time commitment required by the fire service is not compatible with family, work and personal commitments.
- Call volume, increasing time commitments, lack of "day available" personnel, strain placed on family and personal time of firefighters, and the perception of being "volunteer"

firefighters versus the reality of being part-time fire service professionals were listed as both retention and recruitment challenges.

- Only four of the 17 departments reported difficulty in retaining personnel.
- The average income of residents and average home value within a community seems to have minimal impact on recruitment and retention. In the departments facing recruitment challenges, the average income of residents is \$46,300 and the average home value is \$111,390. In the departments not facing recruitment challenges, the average income of residents is \$53,500 and the average home value is \$156,390. For those departments with retention difficulties, the average income of residents is \$46,500 and the average home value is \$117,130. For those departments without retention difficulties, the average income of residents is \$50,000 and the average home value is \$140,880.

Survey results suggest that growing communities in the metropolitan Minneapolis and Saint Paul area experience difficulties with this rapid growth due to the change in community demographics and socio-economic conditions. Many of the survey respondents reported a need to examine how they currently provide services, with many survey respondents reporting attempting new and creative methods to provide services. Change or pressure to change, from internal and external forces, affects all survey respondents. Innovative approaches to address community change are required for the paid-on-call fire department to survive.

Research Question 3: What recommendations to improve fire protection service delivery can be offered by similar paid-on-call fire departments?

Demographic and socio-economic factors of a community often pose a considerable barrier to the recruitment and retention of paid-on-call firefighters. The safety of firefighters and the efficient mitigation of emergencies are directly related to available personnel.

There has been much debate in the fire service literature and in the fire management profession about the relative effectiveness of a fire company (a functional working unit of a fire department, usually consisting of a given number of personnel assigned to a single piece of apparatus) at various staffing levels. The main issues are the minimum company size needed to be able to provide basic fire suppression capabilities with the potential to impact both fire control and firefighter safety, and the time it takes for the company to arrive at the incident. Response time and available staffing are the two most important factors which influence fire department success on the fire ground.

Survey results indicate that to enhance service delivery, 72% of the departments use traffic preemption systems, 20% assign personnel in-quarters (duty crew), 20% use City workers to supplement fire crews, and 33% use an on-call duty officer. Fewer than 17% of the departments use additional paid firefighters, volunteer staff, privatization, or a public safety organizational style to provide fire service.

The Plymouth Fire Department has undertaken the following initiatives in an effort to enhance service delivery:

- Multiple station dispatching is used by the department during daytime hours, when calls for service are the most frequent. This tactic employs call-outs to all fire stations during the busiest hours of call response. By utilizing all stations' available personnel, the department increases the number of responders to daytime calls.

- First-line supervisors (Lieutenants and Captains) respond to a fire station, instead of meeting the arriving crew at the location of the emergency incident. This arrangement provides an increased staffing level at the stations during times of call-out, and allows the supervisor to coordinate, control, and motivate personnel to provide the most timely and appropriate deployment.
- The use of duty vehicles by Chief Officers is instrumental in readily determining the needs of an emergency incident and commanding resources, often before the first apparatus arrives on the scene. Chief Officers use duty vehicles 24 hours per day, allowing them to arrive at the scene of an emergency without first having to report to a fire station. Once on the scene, Chief Officers assess the needs of the incident and coordinate the deployment of resources.
- To address the increase in demand for service, especially during daytime hours, the Plymouth Fire Department has undertaken a concerted effort to hire personnel who are day available. Such recruitment efforts have enabled the department to meet the City's needs during the most difficult and busy time periods.
- Automatic mutual aid has been initiated with several communities to respond to working structure fires and rescue incidents. The closest department is automatically dispatched to assist the primary responders. This helps to ensure a timely and adequate response.
- Members are required to reside or work within a specified travel time to a fire station. This requirement must continue to be met throughout their careers.
- Other strategies to reduce total response time include: allowing members to respond to the station closest to them at the time of dispatch; and using print and news media, networks in

the community, brochures, billboards, and flyers to publicize the need and importance of recruiting additional paid-on-call fire personnel.

- The Department is in the process of conducting research into the development and implementation of the “duty crew” concept. A “duty crew” is an organizational style of a paid-on-call department where available personnel are assigned specific periods of time to be on duty at a fire station.

Creative alternatives to the traditional paid-on-call delivery system are needed. The future survival of the paid-on-call fire service is dependent upon innovation. Many departments in the metropolitan Minneapolis and Saint Paul area are currently attempting to “break out of the box” and provide their communities with improved service.

DISCUSSION

The City of Plymouth has rapidly grown since the Plymouth Fire Department was established in 1959. In 39 years, the population has increased from 9576 to 62,000 residents, and the community has changed from one which was predominately agrarian, to one of light industry and technology.

The growth in the City’s population and change in economy have created barriers for the delivery of fire protection. Since 1982, calls for fire service have tripled. The Department has been challenged not only to provide service to the escalating demand, but also to recruit and retain a paid-on-call force able to carry out this service.

The majority of the City’s increase in demand for fire protection has occurred during daytime hours, and has generally corresponded to providing service to the business community and/or residential

occupancies. To respond to these calls, the Plymouth Fire Department has needed to diversify from an organization which was primarily oriented to provide fire suppression services to one that is highly skilled and proficient in technical rescue, water and ice rescue, hazardous materials response, disaster preparedness, radiological response, and fire prevention education. This diversification has resulted in an increase in required training, time necessary for equipment maintenance, and on-call response time. All of these have increased the firefighters' time commitment to the Department.

Analysis of this research compares favorably to the results of others who have studied the effects of demographics upon the volunteer fire service. In 1995, the National Volunteer Fire Council (NVFC), in cooperation with the United States Fire Administration (USFA), initiated a study to define the issues and develop practical solutions to the problems of recruitment and retention in the volunteer fire service. Significant findings of this study group indicated that demographics of the local community greatly affect the ability to recruit and retain volunteer firefighters.

The survival of a paid-on-call fire department is dependent upon the organization's ability to recruit and retain personnel. Research conducted for this project supports the findings of others who have studied the problems associated with volunteer fire departments. A decline in the number of volunteer firefighters is recognized as a priority concern of volunteer fire service leaders. This trend may be attributed to many factors: a national decline in volunteerism in all areas of service; more stringent training demands; more demands on people's time in a hectic modern society; population shifts from smaller towns to urban centers; changes in the nature of small town industry and farming; a transient society; two income (career) families; and a decline in the sense of civic responsibility (National Volunteer Fire Council, 1995).

Recurring themes appear and support the impact of demographics and socio-economic factors influencing volunteer and paid-on-call staffing. To survive, the fire service must adapt to change. The term “dragons of change” describes those themes identified by John Benoit and Kenneth Perkins (1996) which illustrate elements in today’s society which influence and threaten the survival of the volunteer fire service. The complex dynamic environment of the current volunteer emergency organization is in such sharp contrast to that of a generation ago that we should not be surprised that successful adaptation will be necessary (Benoit & Perkins, 1996, p. 237). Demographic and socio-economic “dragons” identified by Benoit and Perkins are prominent organizational threats and must be tamed, although probably never eliminated, for the organization to survive.

As a fire service leader, the impact of this research is important to the survival of the Plymouth Fire Department. The ability to recognize the issues and problems affecting the paid-on-call department is paramount to its survival. Strategic planning and visioning for the future operation of the organization must be based upon competent research, valid data acquisition, analysis, planning, and bench-marking. Fire service leaders must recognize that our society is constantly changing and that the impact of this dynamic environment affects the operation of the organization.

An evaluation of the results of this research indicates that strategies to recruit and retain volunteer staff must be based upon the individual demographics and socio-economic factors of the community and region. We must develop and implement new and creative strategies to attract people to the fire service. Focused recruitment efforts upon the non-traditional fire service volunteer, i.e., women, minorities, and the aging population, is a positive outcome of this research.

Organizational implications of this research include the creation of a department recruitment committee, charged with developing and implementing strategies to address the recruitment of new

personnel. Active involvement and communication with City administration and the City Council on issues which affect fire department service delivery is also critical to the department's future success.

A continual evaluation of local demographics and socio-economic issues affecting staffing levels within the Plymouth Fire Department will occur. This information will be used to define future service delivery strategies employed by this agency. Sharing of information and partnering with local emergency response organizations to develop regional recruitment strategies is also planned.

The final organizational implication is a realization that for us to survive, we must re-define what level of service we can offer the community based upon our ability to staff the department.

Enhancements to improve our service level are directly related to the demographic and socio-economic conditions of the community and its citizens.

RECOMMENDATIONS

The following recommendations are endorsed after an analysis of the data and information derived from this research:

1. Fire service leadership must take an active role in evaluating the effect local and regional demographic and socio-economic factors have on the ability of the organization to attract and retain personnel. Continual evaluation of community factors should be completed in order to identify trends in demographics. Demographic and socio-economic trends should be utilized to plan future strategic initiatives of the department. Long range planning (10+ years) is dependent upon accurate identification and interpretation of demographic and socio-economic factors within the community.
2. Recruitment and retention efforts must be related to the trends of local demographic and socio-economic influences. Demographic and socio-economic analysis should be utilized to plan long-term strategies and programs designed to enhance recruitment and retention efforts. Focus upon specific populations and geographic areas will increase the efforts to attract and retain personnel.
3. Efforts should be undertaken to identify the fire service delivery level expected within the community. Expected service delivery levels have a direct relationship on strategies concerning adequate staffing, response times, enhanced service delivery, and fire loss.
4. A member survey, designed to identify demographic and socio-economic factors and influences, should be conducted at least once every two years. Survey results may be utilized to identify organizational needs, highlight member expectations, support on-going budget requests for increased funding, and assist in recruiting and retaining personnel.

5. Research to improve service delivery is a continual evaluation of how we do our business.

Recommended practices to improve our service delivery should be incorporated into fire department services. Technological enhancements such as traffic preemption systems, combined with better utilization of personnel, such as the incorporation of duty crews and duty officer programs, will improve the efficiency of the department.

6. City planners must be kept informed of the ways in which proposed development affects the ability of the fire department to recruit and retain personnel. Comprehensive land use plans, city zoning requirements, population and infrastructure anticipated for future growth must be reviewed for input and fire department planning purposes by fire department leadership. To enhance the ability to strategically plan, it is strongly suggested that a partnership exist between City community development planners, city council, and fire department leadership. Open communication and dialog are essential for continued success.

Rapidly changing demographics and socio-economic factors pose significant challenges for the survival of the paid-on-call fire department. The challenges identified and discussed have prompted the Plymouth Fire Department to explore organizational options which will address the growing need for fire protection service in the City, and will assist in recruiting and retaining qualified individuals who are able to meet the on-call and scheduled time commitments of the Department. In doing so, we hope to proactively deliver fire protection service into the twenty-first century.

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**INTERVIEW QUESTIONS
STRATEGIC MANAGEMENT OF CHANGE**

1. In what role(s) do community demographics and socio-economic factors influence the volunteer fire service?
2. What trends do you see occurring in the volunteer fire service?
3. What strategies may a volunteer fire department employ to remain viable into the next century?
4. Are there alternative service delivery options available to volunteer fire departments?

**PLYMOUTH FIRE DEPARTMENT
MEMBER SURVEY
JANUARY 1998**

Please circle or fill in your answers to the following:

Age: _____ Male Female

Single Married Living with Significant Other

Are you raising children? _____ If so, how many? _____

Ages: _____ Do they live with you? _____

Years of schooling:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19+	
									Elementary			High School			Undergraduate			Graduate	

Personal income:

under \$20,000	\$20,000 - \$29,999	\$30,000 - \$39,999
\$40,000 - \$49,999	\$50,000 - \$59,999	\$60,000 - \$69,999
\$70,000 - \$79,999	\$80,000 - \$89,999	\$90,000 or more

Household income:

under \$20,000	\$20,000 - \$29,999	\$30,000 - \$39,999
\$40,000 - \$49,999	\$50,000 - \$59,999	\$60,000 - \$69,999
\$70,000 - \$79,999	\$80,000 - \$89,999	\$90,000 or more

Years of experience in the fire service: _____

Years of experience with the Plymouth Fire Department: _____

Do you live in the City of Plymouth? _____

If yes, for how many years have you lived in Plymouth? _____

Do you rent or own your home? _____

Distance (in miles) from your home to your assigned station: _____

Do you work in the City of Plymouth? _____

Distance (in miles) from your workplace to your assigned station: _____

Other employment: none full-time part-time

Other employment: professional (describe)_____

Service (describe)_____

technical (describe)_____

other (describe)_____

What were your two primary reasons for joining the Plymouth Fire Dept.?

1. _____

2.

What difficulties have you experienced in being a member of the P.F.D.?

1. _____

2. _____

3. _____

4. _____

What benefit/satisfaction do you receive from being a member of the P.F.D.?

1. _____
2. _____
3. _____
4. _____

What is your principal reason for continuing to serve? _____

What efforts can we initiate/continue in order to attract and retain qualified members?

Describe your family's perspective of your service with the P.F.D.: _____

Would you be interested in department-arranged child care? _____

Please describe yourself when you joined the department:

Age: _____

Single

Married

Living with Significant Other

Raising children? _____

Renter

Homeowner

Please describe the Department's performance in the following:

- Communication

Is it timely?	Y	N
Is it adequate?	Y	N
Are the methods appropriate?	Y	N
Is the flow of information proper?	Y	N

Comments:

- Leadership

Do the leaders communicate well?	Y	N
Are they open?	Y	N
Are they decisive?	Y	N
Are they fair?	Y	N
Do they involve others?	Y	N
Do they listen?	Y	N
Are they flexible?	Y	N
Do they show foresight?	Y	N

Comments:

- Equipment

Is it up-to-date?	Y	N
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Is it adequate?	Y	N
-----------------	---	---

Is it properly maintained?	Y	N
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Do you need more equipment?	Y	N
-----------------------------	---	---

Do you need less equipment?	Y	N
-----------------------------	---	---

Comments:

- Training

Are the topics appropriate?	Y	N
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Are the instructors qualified?	Y	N
--------------------------------	---	---

Are you encouraged to be involved?	Y	N
------------------------------------	---	---

Is the time spent appropriate?	Y	N
--------------------------------	---	---

Comments:

Anything else you wish we'd asked?

Thank you for your thoughtful comments!



This survey will be utilized as a research tool to evaluate the delivery of fire protection services, identify barriers and challenges in providing such services and to offer recommendations to enhance service delivery provided by fire departments in the Minneapolis/St. Paul metropolitan area.

Please return completed surveys by November 17, 1997. Thank you for your prompt attention to these questions.

Completed surveys may be faxed to Chief Richard Kline , Plymouth Fire Department, at 509-5167.

Agency name: _____

Agency type: Volunteer Volunteer paid-on-call combination career

Protection area information:

Active fire department membership: _____ Fire Chief: paid volunteer

Calls for service (1996): Fire _____: EMS: _____

Has your agency experienced an increase in call response in the past 5 years. Yes No

Busiest call response time: 00:01 - 06:00 06:00 - 12:00 12:00 - 18:00 18:00 - 00:00.

Most difficult time to staff for call response is (use above time periods). _____

Average number of firefighters who respond *on the first due apparatus*. _____

Do you have minimum staffing requirements for first due apparatus: Yes No. If yes, what does your agency consider to be minimum staffing on an engine: _____; ladder: _____

Population protected: _____ Coverage area (square miles): _____

Briefly describe the demographics, economy and growth of your community since 1992.

Average home value in your community. _____

Average income level of residents in your community. _____

Has your agency experienced difficulties in providing services due to changes in your community? Yes No
If yes, what are the barriers or challenges your agency is facing in the delivery of fire protection services?

Is your organization experiencing difficulties in the recruitment of personnel? Yes No
If yes, what do you feel contributes to a difficulty in the recruitment of fire personnel. Please list.

_____	_____
_____	_____
_____	_____

Is your organization experiencing difficulties in the retention of personnel? Yes No
If yes, why do you feel personnel leave (earlier than expected) the fire service. Please list.

_____	_____
_____	_____
_____	_____

Service delivery enhancements:

Is your agency considering the use of, or are you actively utilizing, any of the following to enhance service delivery your community. Circle all that apply.

- | | |
|---|--|
| Traffic pre-emption system | Use of City workers to supplement fire crews |
| Assigning personnel in-quarters (duty crew) | Addition of paid firefighters |
| Additional volunteer staff | On-call duty officer |
| Privatization | Public Safety organizational style |

Other:

Would you like a summary of this survey and its results? Yes No

If yes, your fax number: _____

Thank you for your assistance with this project!